Contents of Volume 66

NO. 1. JULY 1991

EDITORIAL

Rapid Publication 1

Two Types of Kainate Response in Cultured Rat Hippocampal Neurons
S. Ozawa, M. Iino, and K. Tsuzuki 2

Phase-Dependent Modulations of Anticipatory Postural Activity During Human Locomotion
H. Hirschfeld and H. Forssberg 12

Interactions Between Visceral and Cutaneous Nociception in the Rat
I. Noxious Cutaneous Stimuli Inhibit Visceral Nociceptive Neurons and Reflexes
T. J. Ness and G. F. Gebhart 20

Interactions Between Visceral and Cutaneous Nociception in the Rat
II. Noxious Visceral Stimuli Inhibit Cutaneous Nociceptive Neurons and Reflexes
T. J. Ness and G. F. Gebhart 29

Excitatory Effects of ACPD Receptor Activation in the Hippocampus are Mediated by Direct Effects on Pyramidal Cells and Blockade of Synaptic Inhibition
M. A. Desai and P. J. Conn 40

Cortical Somatosensory Evoked Potentials. I. Recordings in the Monkey *Macaca fascicularis*
G. McCarthy, C. C. Wood, and T. Allison 53

Cortical Somatosensory Evoked Potentials. II. Effects of Excision of Somatosensory or Motor Cortex in Humans and Monkeys
T. Allison, C. C. Wood, G. McCarthy, and D. D. Spencer 64

Somatosensory Response Properties of Contralaterally Projecting Spinothalamic and Nonspinothalamic Neurons in the Second Cervical Segment of the Cat
M. V. Smith, A. V. Apkarian, and C. J. Hodge, Jr. 83

Effect of Anoxia on Intracellular and Extracellular Potassium Activity in Hypoglossal Neurons In Vitro
C. Jiang and G. G. Haddad 103

Responses of Olfactory Receptor Cells of Spiny Lobsters to Binary Mixtures. I Intensity Mixture Interactions
C. D. Derby, M.-N. Girardot, and P. C. Daniel 112

Responses of Olfactory Receptor Cells of Spiny Lobsters to Binary Mixtures. II Pattern Mixture Interactions
C. D. Derby, M.-N. Girardot, and P. C. Daniel 131

Anesthetic Blockade of the Dorsolateral Funiculus Enhances Evoked Activity of Spinal Cord Dorsal Horn Neurons
L. M. Pubols, D. A. Simone, N. A. Bernau, and J. D. Atkinson 140

Neuronal Activity in the Primary Somatosensory Cortex in Monkeys (*Macaca mulatta*) During Active Touch of Textured Surface Gratings: Responses to Groove Width, Applied Force, and Velocity of Motion
R. J. Sinclair and H. Burton 153

Coding Visual Images of Objects in the Inferotemporal Cortex of the Macaque Monkey
K. Tanaka, H.-A. Saito, Y. Fukada, and M. Moriya 170

Neurogenic Hyperalgesia: Psychophysical Studies of Underlying Mechanisms
R. H. LaMotte, C. N. Shain, D. A. Simone, and E.-F. P. Tsai 190

Neurogenic Hyperalgesia: The Search for the Primary Cutaneous Afferent Fibers That Contribute to Capsaicin-Induced Pain and Hyperalgesia
T. K. Baumann, D. A. Simone, C. N. Shain, and R. H. LaMotte 212

Neurogenic Hyperalgesia: Central Neural Correlates in Responses of Spinothalamic Tract Neurons
D. A. Simone, L. S. Sorkin, U. Oh, J. M. Chung, C. Owens, R. H. LaMotte, and W. D. Willis 228
Responses of Single Facial Taste Fibers in the Sea Catfish, *Arius felis*, to Amino Acids
W. Michel and J. Caprio 247
Physiological Characterization of Spinohypothalamic Tract Neurons in the Lumbar Enlargement of Rats
R. Burstein, R. J. Dado, K. D. Cliffer, and G. J. Giesler, Jr. 261
Opposing Effects of 5-Hydroxytryptamine on Two Types of Medullary Inspiratory Neurons With Distinct Firing Patterns
H. Arita and M. Ochiishi 285
Excitatory Amino Acid Receptor–Mediated Transmission in Geniculocortical and Intracortical Pathways Within Visual Cortex
L. J. Larson-Prior, P. S. Ulinski, and N. T. Slater 293
Discharge Patterns of Human C-Fibers Induced by Itching and Burning Stimuli
H. O. Handwerker, C. Forster, and C. Kirchhoff 307
Long-Term Optical Recording of Patterns of Electrical Activity in Ensembles of Cultured *Aplysia* Neurons
T. D. Parsons, B. M. Salzberg, A. L. Obaid, F. Raccuia-Behling, and D. Kleinfeld 316
Discrimination Performance of Single Neurons: Rate and Temporal-Pattern Information
W. S. Geisler, D. G. Albrecht, R. J. Salvi, and S. S. Saunders 334

NO. 2. AUGUST 1991

Different Mechanical Transduction Mechanisms for the Immediate and Delayed Responses of Rat C-Fiber Nociceptors
D. M. White and J. D. Levine 363
Glutamate-Activated Channels in Adult Rat Ventral Spinal Cord Cells
D. O. Smith, C. Franke, J. L. Rosenheimer, F. Zufall, and H. Hatt 369
Interactive Effects Among Several Stimulus Parameters on the Responses of Striate Cortical Complex Cells
T. J. Gawne, B. J. Richmond, and L. M. Optican 379
Relationship of Intrinsic Connections to Forelimb Movement Representations in Monkey Motor Cortex: A Correlative Anatomic and Physiological Study
G. W. Huntley and E. G. Jones 390
NMDA and Non-NMDA Receptors Mediate Visual Responses of Neurons in the Cat's Lateral Geniculate Nucleus
Y. H. Kwon, M. Esguerra, and M. Sur 414
A Quantitative Study of Neuronal Discharge in Areas 5, 2, and 4 of the Monkey During Fast Arm Movements
P. Burbaud, C. Doegle, C. Gross, and B. Bioulac 429
Isotropic Connections Generate Functional Asymmetrical Behavior in Visual Cortical Cells
F. Wörgötter, E. Niebur, and C. Koch 444
Differential Synaptic Effects on Physiological Flexor Hindlimb Motoneurons From Cutaneous Nerve Inputs in Spinal Cat
J. C. Leahy and R. G. Durkovic 460
Computer Simulations of *N*-Methyl-D-Aspartate Receptor-Induced Membrane Properties in a Neuron Model
L. Brodin, H. G. C. Tråvén, A. Lansner, P. Wallén, Ö. Ekeberg, and S. Grillner 473
Visual Responses of Pulvinar and Collicular Neurons During Eye Movements of Awake, Trained Macaques
D. L. Robinson, J. W. McClurkin, C. Kertzman, and S. E. Petersen 485

Quinolones and Fenbufen Interact With $GABA_A$ Receptor in Dissociated Hippocampal Cells of Rat
N. Akaike, T. Shirasaki, and T. Yakushiji 497
Directional Selectivity and Spatiotemporal Structure of Receptive Fields of Simple Cells in Cat Striate Cortex
R. C. Reid, R. E. Soodak, and R. M. Shapley 505
Neuronal Activity Related to Visually Guided Saccadic Eye Movements in the Supplementary Motor Area of Rhesus Monkeys
J. D. Schall 530
Neuronal Activity Related to Visually Guided Saccades in the Frontal Eye Fields of Rhesus Monkeys: Comparison With Supplementary Eye Fields
J. D. Schall 559
Specificity of Mono- and Divalent Salt Transduction Mechanisms in Frog Gustation Evidenced by Cobalt Chloride Treatment
M. S. Herness 580
Differential Antagonism of Transmitter Release by Subtypes of ω-Agatoxins
V. P. Bindokas, V. J. Venema, and M. E. Adams 590
Two Kinds of Resting Discharge in Cat Muscle Spindles
J. E. Gregory, D. L. Morgan, and U. Proske 602
Effect of Muscle Length on Phasic Stretch Reflexes in Humans and Cats
B. I. Polus, A. Patak, J. E. Gregory, and U. Proske 613
Temperature Neurons in the Crotaline Trigeminal Ganglia
S.-I. Terashima and Y.-F. Liang 623
A Model of a CA3 Hippocampal Pyramidal Neuron Incorporating Voltage-Clamp Data on Intrinsic Conductances
R. D. Traub, R. K. S. Wong, R. Miles, and H. Michelson 635

NO. 3. SEPTEMBER 1991

Recovery of Function After Lesions in the Superior Temporal Sulcus in the Monkey
D. S. Yamasaki and R. H. Wurtz 651
Fast Rhythms in Phrenic Motoneuron and Nerve Discharges
C. N. Christakos, M. I. Cohen, R. Barnhardt, and C.-F. Shaw 674
Synaptic Potentials Evoked by Convergent Somatosensory and Corticocortical Inputs in Raccoon Somatosensory Cortex: Substrates for Plasticity
E. Smits, D. C. Gordon, S. Witte, D. D. Rasmusson, and P. Zarzecki 688
Influence of Map Scale on Primary Afferent Terminal Field Geometry in Cat Dorsal Horn
R. J. Millecchia, L. M. Pubols, R. V. Sonty, J. L. Culberson, W. E. Gladfelter, and P. B. Brown 696
Neuronal Activity in the Primate Premotor, Supplementary, and Precentral Motor Cortex During Visually Guided and Internally Determined Sequential Movements
H. Mushiake, M. Inase, and J. Tanji 705
A Voltage- and Time-Dependent Rectification in Rat Dorsal Spinal Root Axons
B. D. Birch, J. D. Kocsis, F. Di Gregorio, R. B. Bhisitkul, and S. G. Waxman 719
Delayed Activation of Nociceptors: Correlation With Delayed Pain Sensations Induced by Sustained Stimuli
D. M. White, Y. O. Taiwo, T. J. Coderre, and J. D. Levine 729
Somatotopic Mapping of the Primary Motor Cortex in Humans: Activation Studies With Cerebral Blood Flow and Positron Emission Tomography
S. T. Grafton, R. P. Woods, J. C. Mazziotta, and M. E. Phelps 735
Electrophysiological Properties of Neurons Within the Nucleus Ambiguus of Adult Guinea Pigs
S. M. Johnson and P. A. Getting 744
Effect of Neonatal Denervation of Hindlimb Digits on the Somatotopic Organization of Lumbar Spinocervical Tract Neurons in the Cat
P. Wilson and P. J. Snow 762

Lateral Geniculate Neurons in Behaving Primates. I. Responses to Two-Dimensional Stimuli
J. W. McClurkin, T. J. Gawne, B. J. Richmond, L. M. Optican, and D. L. Robinson 777
Lateral Geniculate Neurons in Behaving Primates. II. Encoding of Visual Information in the Temporal Shape of the Response
J. W. McClurkin, T. J. Gawne, L. M. Optican, and B. J. Richmond 794
Lateral Geniculate Neurons in Behaving Primates. III. Response Predictions of a Channel Model With Multiple Spatial-to-Temporal Filters
T. J. Gawne, J. W. McClurkin, B. J. Richmond, and L. M. Optican 809
Tonically Rhythmic Neurons Within a Cardiorespiratory Region of the Nucleus Tractus Solitarii of the Rat
J. F. R. Paton, W. T. Rogers, and J. S. Schwaber 824
A Model of the T-Type Calcium Current and the Low-Threshold Spike in Thalamic Neurons
X.-J. Wang, J. Rinzel, and M. A. Rogawski 839
Ocular Responses to Translation and Their Dependence on Viewing Distance. I Motion of the Observer
U. Schwarz and F. A. Miles 851
Ocular Responses to Translation and Their Dependence on Viewing Distance. II Motion of the Scene
C. Busettini, F. A. Miles, and U. Schwarz 865
Activity of Neurons in Cerebellar-Receiving and Pallidal-Receiving Areas of the Thalamus of the Behaving Monkey
M. E. Anderson and R. S. Turner 879
Intracellular Analysis of Excitatory-Inhibitory Synaptic Interactions in Crayfish Stretch Receptors
L. C. Barrio, A. Araque, V. Abraira, and W. Buño 894
Effects of Low-Frequency Stimulation on the Tension-Frequency Relations of Fast-Twitch Motor Units in the Cat
R. K. Powers and M. D. Binder 905
Functional Organization Within the Medullary Reticular Formation of the Intact Unanesthetized Cat. III. Microstimulation During Locomotion
T. Drew 919
Transient Reversal of the Stretch Reflex in Human Arm Muscles
F. Lacquaniti, N. A. Borghese, and M. Carrozzo 939
Temporal Processing in the Dorsal Medullary Nucleus of the Northern Leopard Frog (*Rana pipiens pipiens*)
J. C. Hall and A. S. Feng 955
Parabrachial Gustatory Neural Activity During Licking by Rats
H. Nishijo and R. Norgren 974
Excitatory Transmission in the Basolateral Amygdala
D. G. Rainnie, E. K. Asprodini, and P. Shinnick-Gallagher 986
Inhibitory Transmission in the Basolateral Amygdala
D. G. Rainnie, E. K. Asprodini, and P. Shinnick-Gallagher 999
Kinetic Properties of Two Anatomically Distinct Excitatory Synapses in Hippocampal CA3 Pyramidal Neurons
S. H. Williams and D. Johnston 1010
Changes in Tonic Descending Inhibition of Spinal Neurons With Articular Input During the Development of Acute Arthritis in the Cat
H.-G. Schaible, V. Neugebauer, F. Cervero, and R. F. Schmidt 1021
Electrophysiological Study of Spinothalamic Inputs to Ventrolateral and Adjacent Thalamic Nuclei of the Cat
C.-T. Yen, C. N. Honda, and E. G. Jones 1033
Reorganization of Somatosensory Area 3b Representations in Adult Owl Monkeys After Digital Syndactyly
T. Allard, S. A. Clark, W. M. Jenkins, and M. M. Merzenich 1048

Simulations of Cortical Pyramidal Neurons Synchronized by Inhibitory Interneurons
W. W. Lytton and T. J. Sejnowski 1059
Binaural Properties of Single Units in the Superior Olivary Complex of the Mustached Bat
E. Covey, M. Vater, and J. H. Casseday 1080
Saccade-Related Activity in the Lateral Intraparietal Area. I. Temporal Properties; Comparison With Area 7a
S. Barash, R. M. Bracewell, L. Fogassi, J. W. Gnadt, and R. A. Andersen 1095
Saccade-Related Activity in the Lateral Intraparietal Area. II. Spatial Properties
S. Barash, R. M. Bracewell, L. Fogassi, J. W. Gnadt, and R. A. Andersen 1109
Announcements 1125

NO. 4. OCTOBER 1991

Motor-Unit Recruitment in the Decerebrate Cat: Several Unit Properties Are Equally Good Predictors of Order
T. C. Cope and B. D. Clark 1127
Mechanical Analysis of Heterogenic Inhibition Between Soleus Muscle and the Pretibial Flexors in the Cat
T. R. Nichols and D. Koffler-Smulevitz 1139
Gustatory Neural Coding in the Monkey Cortex: Stimulus Quality
V. L. Smith-Swintosky, C. R. Plata-Salaman, and T. R. Scott 1156
Desensitization and Resensitization Rates of Glutamate-Activated Channels May Regulate Motoneuron Excitability
D. O. Smith, C. Franke, J. L. Rosenheimer, F. Zufall, and H. Hatt 1166
Functional Properties of a Slowly Inactivating Potassium Current in Guinea Pig Dorsal Lateral Geniculate Relay Neurons
D. A. McCormick 1176
Three Types of Inhibitory Postsynaptic Potentials Generated by Interneurons in the Anterior Thalamic Complex of Cat
D. Paré, R. C. Dossi, and M. Steriade 1190
Physiological Properties of Primary Sensory Neurons Appropriately and Inappropriately Innervating Skin in the Adult Rat
G. R. Lewin and S. B. McMahon 1205
Physiological Properties of Primary Sensory Neurons Appropriately and Inappropriately Innervating Skeletal Muscle in Adult Rats
G. R. Lewin and S. B. McMahon 1218
Gustatory Responses of Neurons in the Nucleus of the Solitary Tract of Behaving Rats
K. Nakamura and R. Norgren 1232
Corticostriatal Transformations in the Primate Somatosensory System. Projections From Physiologically Mapped Body-Part Representations
A. W. Flaherty and A. M. Graybiel 1249
Glutamate as a Putative Neurotransmitter in the Buccal Central Pattern Generator of *Helisoma trivolvis*
E. M. Quinlan and A. D. Murphy 1264
Properties of High-Threshold Mechanoreceptors in the Oral Mucosa. I. Responses to Dynamic and Static Pressure
B. Cooper, M. Ahlquist, R. M. Friedman, B. Loughner, and M. Heft 1272
Properties of High-Threshold Mechanoreceptors in the Goat Oral Mucosa. II Dynamic and Static Reactivity in Carrageenan-Inflamed Mucosa
B. Cooper, M. Ahlquist, R. M. Friedman, and J. Labanc 1280
A Characterization of Glycinergic Receptors Present in Cultured Rat Medullary Neurons
C. A. Lewis, Z. Ahmed, and D. S. Faber 1291
A Fast Transient Potassium Current in Thalamic Relay Neurons: Kinetics of Activation and Inactivation
J. R. Huguenard, D. A. Coulter, and D. A. Prince 1304

Slow Inactivation of a TEA-Sensitive K Current in Acutely Isolated Rat Thalamic Relay Neurons
J. R. Huguenard and D. A. Prince 1316
Inhibition of 5-HT_3 Receptor-Mediated Ion Current by Divalent Metal Cations in NCB-20 Neuroblastoma Cells
D. M. Lovinger 1329
Neural Control of Swimming in *Aplysia brasiliana*. I. Innervation of Parapodial Muscle by Pedal Ganglion Motoneurons
D. R. McPherson and J. E. Blankenship 1338
Neural Control of Swimming in *Aplysia brasiliana*. II. Organization of Pedal Motoneurons and Parapodial Motor Fields
D. R. McPherson and J. E. Blankenship 1352
Neural Control of Swimming in *Aplysia brasiliana*. III. Serotonergic Modulatory Neurons
D. R. McPherson and J. E. Blankenship 1366
Kinetics and Voltage Dependence of A-Type Currents on Neonatal Rat Sensory Neurons
S. McFarlane and E. Cooper 1380
Efferent Neurons and Suspected Interneurons in Second Somatosensory Cortex of the Awake Rabbit: Receptive Fields and Axonal Properties
H. A. Swadlow 1392
Modeling the Spatiotemporal Organization of Velocity Storage in the Vestibuloocular Reflex by Optokinetic Studies
T. Raphan and D. Sturm 1410
Spatial Orientation of the Vestibular System: Dependence of Optokinetic After-Nystagmus on Gravity
M. Dai, T. Raphan, and B. Cohen 1422

NO. 5. NOVEMBER 1991

Postsynaptic Potentials Mediated by Excitatory and Inhibitory Amino Acids in Interneurons of Stratum Pyramidale of the CA1 Region of Rat Hippocampal Slices In Vitro
J.-C. Lacaille 1441
Potassium Current Kinetics in Bursting Secretory Neurons: Effects of Intracellular Calcium
J. J. Martínez, C. G. Onetti, E. García, and S. Hernández 1455
Rescue of Motoneurons From the Axotomized State by Regeneration Into a Sensory Nerve in Cats
H. Nishimura, R. D. Johnson, and J. B. Munson 1462
Effect of Metabolic Inhibition on the Excitability of Isolated Hippocampal CA1 Neurons: Developmental Aspects
T. R. Cummins, D. F. Donnelly, and G. G. Haddad 1471
Nonuniform Fatigue Characteristics of Slow-Twitch Motor Units Activated at a Fixed Percentage of Their Maximum Tetanic Tension
T. C. Cope, C. B. Webb, A. K. Yee, and B. R. Botterman 1483
Visual Activity in Areas V3a and V3 During Reversible Inactivation of Area V1 in the Macaque Monkey
P. Girard, P. A. Salin, and J. Bullier 1493
Morphological Correlates of Response Dynamics and Efferent Stimulation in Horizontal Semicircular Canal Afferents of the Toadfish, *Opsanus tau*
R. Boyle, J. P. Carey, and S. M. Highstein 1504
Octopaminergic Modulation of Interneurons in the Flight System of the Locust
J.-M. Ramirez and K. G. Pearson 1522
Hyperpolarizing and Depolarizing $GABA_A$ Receptor-Mediated Dendritic Inhibition in Area CA1 of the Rat Hippocampus
N. A. Lambert, A. M. Borroni, L. M. Grover, and T. J. Teyler 1538

Neuronal Pair and Triplet Interactions in the Auditory Midbrain of the Leopard Frog
J. J. Eggermont 1549
Discharge Patterns of Trigeminal Commissural Last-Order Interneurons During Fictive Mastication in the Rabbit
R. Donga and J. P. Lund 1564
Initiation Rules for Planar, Two-Joint Arm Movements: Agonist Selection for Movements Throughout the Work Space
G. M. Karst and Z. Hasan 1579
Timing and Magnitude of Electromyographic Activity for Two-Joint Arm Movements in Different Directions
G. M. Karst and Z. Hasan 1594
Control of Orienting Gaze Shifts by the Tectoreticulospinal System in the Head-Free Cat. I. Identification, Localization, and Effects of Behavior on Sensory Responses
D. Guitton and D. P. Munoz 1605
Control of Orienting Gaze Shifts by the Tectoreticulospinal System in the Head-Free Cat. II. Sustained Discharges During Motor Preparation and Fixation
D. P. Munoz and D. Guitton 1624
Control of Orienting Gaze Shifts by the Tectoreticulospinal System in the Head-Free Cat. III. Spatiotemporal Characteristics of Phasic Motor Discharges
D. P. Munoz, D. Guitton, and D. Pélisson 1642
Nonlinearity of Spatial Summation in Simple Cells of Areas 17 and 18 of Cat Visual Cortex
D. Ferster and B. Jagadeesh 1667
Representation of Sensory Information in the Cricket Cercal Sensory System. I Response Properties of the Primary Interneurons
J. P. Miller, G. A. Jacobs, and F. E. Theunissen 1680
Representation of Sensory Information in the Cricket Cercal Sensory System. II Information Theoretic Calculation of System Accuracy and Optimal Tuning-Curve Widths of Four Primary Interneurons
F. E. Theunissen and J. P. Miller 1690
Depression of the Fast IPSP Underlies Paired-Pulse Facilitation in Area CA1 of the Rat Hippocampus
T. Nathan and J. D. C. Lambert 1704
Superior Colliculus Neurons Mediate the Dynamic Characteristics of Saccades
D. M. Waitzman, T. P. Ma, L. M. Optican, and R. H. Wurtz 1716
The Terminations of Single, Physiologically Identified, Somatosensory, Corticospinal Tract Axons in the Lumbar Spinal Cord of the Cat
E. J. Casale and A. R. Light 1738
Organization of Dorsal Cochlear Nucleus Type IV Unit Response Maps and Their Relationship to Activation by Bandlimited Noise
G. A. Spirou and E. D. Young 1750
Position-Specific Adaptation in Simple Cell Receptive Fields of the Cat Striate Cortex
S. G. Marlin, R. M. Douglas, and M. S. Cynader 1769
Synaptic Plasticity in Visual Cortex: Comparison of Theory With Experiment
E. E. Clothiaux, M. F. Bear, and L. N. Cooper 1785

NO. 6. DECEMBER 1991

Spatial Organization of Linear Vestibuloocular Reflexes of the Rat: Responses During Horizontal and Vertical Linear Acceleration
B. J. M. Hess and N. Dieringer 1805
Sensitizing Effects of Bradykinin on the Heat Responses of the Visceral Nociceptor
T. Kumazawa, K. Mizumura, M. Minagawa, and Y. Tsujii 1819
Correlation of Physiologically and Morphologically Identified Neuronal Types in Human Association Cortex In Vitro
R. C. Foehring, N. M. Lorenzon, P. Herron, and C. J. Wilson 1825

Summation of Motor Unit Tensions in the Tibialis Posterior Muscle of the Cat Under Isometric and Nonisometric Conditions
R. K. Powers and M. D. Binder 1838

Serotonin Inhibits the Peptide FMRFamide Response Through a Cyclic AMP–Independent Pathway in *Aplysia*
R. Shi and F. Belardetti 1847

Synchronized Oscillatory Activity in Leech Neurons Induced by Calcium Channel Blockers
J. D. Angstadt and W. O. Friesen 1858

Fictive Motor Patterns in Chronic Spinal Cats
K. G. Pearson and S. Rossignol 1874

Analysis of Ia-Inhibitory Synaptic Input to Cat Spinal Motoneurons Evoked by Vibration of Antagonist Muscles
C. J. Heckman and M. D. Binder 1888

Excitatory Synaptic Involvement in Epileptiform Bursting in the Immature Rat Neocortex
W.-L. Lee and J. J. Hablitz 1894

Hyperpolarization-Activated Inward Current in Histaminergic Tuberomammillary Neurons of the Rat Hypothalamus
A. Kamondi and P. B. Reiner 1902

Modulatory Effects of Serotonin, FMRFamide, and Myomodulin on the Duration of Action Potentials, Excitability, and Membrane Currents in Tail Sensory Neurons of *Aplysia*
S. D. Critz, D. A. Baxter, and J. H. Byrne 1912

M-Wave of the Toad Electroretinogram
B. J. Katz, R. Wen, J. Zheng, Z. Xu, and B. Oakley II 1927

Lamina-Specific Effects of Morphine and Naloxone in Dorsal Horn of Rat Spinal Cord In Vitro
D. S. K. Magnuson and A. H. Dickenson 1941

Are the Initial Frequency-Modulated Components of the Mustached Bat's Biosonar Pulses Important for Ranging?
D. C. Fitzpatrick, N. Suga, and H. Misawa 1951

Facilitation and Suppression of Wrist and Digit Muscles From Single Rubromotoneuronal Cells in the Awake Monkey
K. Mewes and P. D. Cheney 1965

Effects on Wrist and Digit Muscle Activity From Microstimuli Applied at the Sites of Rubromotoneuronal Cells in Primates
P. D. Cheney, K. Mewes, and G. Widener 1978

Dual Effect of Glycine on Horizontal Cells of the Tiger Salamander Retina
S. Borges and M. Wilson 1993

The Effects of Glycine and GABA on Isolated Horizontal Cells From the Salamander Retina
T. A. Gilbertson, S. Borges, and M. Wilson 2002

Effects of Two Volatile Anesthetics and a Volatile Convulsant on the Excitatory and Inhibitory Amino Acid Responses in Dissociated CNS Neurons of the Rat
M. Wakamori, Y. Ikemoto, and N. Akaike 2014

Binocular Immobilization Induced by Paralysis of the Extraocular Muscles of One Eye: Evidence for an Interocular Proprioceptive Mechanism
L. P. O'Keefe and M. A. Berkley 2022

Laminar Distribution of Neuronal Membrane Properties in Neocortex of Normal and Reeler Mouse
L. R. Silva, M. J. Gutnick, and B. W. Connors 2034

Somatosensory Responses in the Cat Motor Cortex. I. Identification and Course of an Afferent Pathway
Y. Padel and J. L. Relova 2041

Changing Patterns of Synaptic Input to Subplate and Cortical Plate During Development of Visual Cortex
E. Friauf and C. J. Shatz 2059
Effect of Task on the Degree of Synchronization of Intrinsic Hand Muscle Motor Units in Man
F. D. Bremner, J. R. Baker, and J. A. Stephens 2072
Responses of Medullary Raphespinal Neurons to Electrical Stimulation of Thoracic Sympathetic Afferents, Vagal Afferents, and to Other Sensory Inputs in Cats
R. W. Blair and A. R. Evans 2084
Responses of Medullary Raphespinal Neurons to Coronary Artery Occlusion, Epicardial Bradykinin, and Cardiac Mechanical Stimuli in Cats
R. W. Blair and A. R. Evans 2095
Simulation of the Bursting Activity of Neuron R15 in *Aplysia*: Role of Ionic Currents, Calcium Balance, and Modulatory Transmitters
C. C. Canavier, J. W. Clark, and J. H. Byrne 2107
Discharge Characteristics of Medial Rectus and Abducens Motoneurons in the Goldfish
A. M. Pastor, B. Torres, J. M. Delgado-Garcia, and R. Baker 2125
Primary Afferents Evoke Excitatory Amino Acid Receptor–Mediated EPSPs That Are Modulated by Presynaptic $GABA_B$ Receptors in Lamprey
J. Christenson and S. Grillner 2141

RAPID COMMUNICATIONS

Presynaptic Transmitter Release is Specified by Postsynaptic Neurons of *Aplysia* Buccal Ganglia
D. Gardner 2150
Regenerating Sprouts of Axotomized Cat Muscle Afferents Express Characteristic Firing Patterns to Mechanical Stimulation
R. D. Johnson and J. B. Munson 2155

Announcements 2159
Subject Index to Volume 66 2161
Author Index to Volume 66 2169